

CRF Errors Corrected by the STIC System Branch

Serial Number: 101087, 714

CRF Processing Date: 3/25/02 (3/20/02)

Edited by: DC  
Verified by: DC (STIC staff)

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: **ENTERED**
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: \_\_\_\_\_
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: \_\_\_\_\_
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: \_\_\_\_\_
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: \_\_\_\_\_
- ☐ Deleted extra, invalid, headings used by an applicant, specifically: \_\_\_\_\_
- ☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file;  
☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_
- ☐ Inserted mandatory headings, specifically: \_\_\_\_\_
- ☐ Corrected an obvious error in the response, specifically: \_\_\_\_\_
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: \_\_\_\_\_
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted **ending** stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- ☒ Other: Edited a "run. on" of fields in Seq ID 3. Made proper corrections by hitting "Enter" key.

\*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95



OIPE

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/087,714

DATE: 03/25/2002 P.6  
TIME: 11:19:32

Input Set : N:\Crif3\03202002\J087714.raw

Output Set: N:\CRF3\03222002\J087714.raw

```

1 <110> APPLICANT: Havkin-Frenkel, Daphna
2   Podstolski, Andrzej
3   Dixon, Richard A.
4 <120> TITLE OF INVENTION: Vanillin Biosynthetic Pathway Enzyme From Vanilla
5   Planifolia
6 <130> FILE REFERENCE: DMC10099
7 <140> CURRENT APPLICATION NUMBER: US/10/087,714
8 <141> CURRENT FILING DATE: 2002-02-28
9 <150> PRIOR APPLICATION NUMBER: 09/462,576
10 <151> PRIOR FILING DATE: 2000-05-22
11 <150> PRIOR APPLICATION NUMBER: PCT/US98/14895
12 <151> PRIOR FILING DATE: 1998-07-15
13 <150> PRIOR APPLICATION NUMBER: 60/052,604
14 <151> PRIOR FILING DATE: 1997-07-15
15 <150> PRIOR APPLICATION NUMBER: 60/272,415
16 <151> PRIOR FILING DATE: 2001-02-28
17 <160> NUMBER OF SEQ ID NOS: 25
18 <170> SOFTWARE: PatentIn version 3.1
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 1071
22 <212> TYPE: DNA
23 <213> ORGANISM: Vanilla planifolia
24 <400> SEQUENCE: 1
25   atggcagcta agctcctctt cttcctactc ttcttggtct cgcgccctctc cgtcgcgctc      60
26   gccggtttcg aagaagacaa tccaatccgg tccgttacac aaaggcctga ctcgattgag      120
27   cctgccatcc tcggcgctct tggcagttgc cgccacgcct tccacttcgc acggttcgcc      180
28   cgcaggtacg ggaagagcta cggatcggag gaggagatca agaagagggt cgggatcttc      240
29   gtggagaatc tagcgtttat ccggtccact aatcggaagg atctgtcgta taccctagga      300
30   atcaaccaat tcgccgacct gacctgggag gaattccgga ccaatcgctt tggcgcggcg      360
31   cagaactgct cggcgactgc gcatggaaac caccggtttg tcgatggcgt gcttcctgta      420
32   acgaggggatt ggagggagca agggatagtg agccctgtaa aggaccaagg aagctgtgga      480
33   tcttgctgga ctttcagtac tactggagca ctagaggctg catatacaca gctaaactgga      540
34   aagagcacat cattatctga acagcaactt gtggactgtg cctcagcatt caataacttt      600
35   ggatgcaatg gaggtttgcc ttcccaagcc tttgaatacg ttaagtacaa tggaggcatc      660
36   gacacagAAC agacttatcc ataccttggg gtcaatggta tctgcaactt caagcaggag      720
37   aatgttggtg tcaaggatcat tgattcgata aacatcaccc tgggtgctga ggatgagttg      780
38   aagcatgcag tgggcttggg gcgtccagtt agcgttgcat ttgaggttgt gaaaggtttc      840
39   aatctgtaca agaaagggtg atacagcagt gacacctgtg gaagagatcc aatggatgtg      900
40   aaccacgcag ttcttgccgt cggttatgga gtcgaggacg ggattcctta ttggctcatc      960
41   aagaactcat ggggtacaaa ttggggtgac aatggctact ttaagatgga actcggcaag      1020
42   aacatgtgtg gtggttgcaac ttgcgcactc tatccatttg tggctgtgta g          1071
44 <210> SEQ ID NO: 2
45 <211> LENGTH: 352

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## RAW SEQUENCE LISTING

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TIME: 11:19:32

Input Set : N:\Crf3\03202002\J087714.raw

Output Set: N:\CRF3\03222002\J087714.raw

46 &lt;212&gt; TYPE: PRT

47 &lt;213&gt; ORGANISM: Vanilla planifolia

48 &lt;400&gt; SEQUENCE: 2

```

49      Met Ala Ala Lys Leu Phe Phe Leu Leu Phe Leu Val Ser Ala Leu
50      1          5          10          15
51      Ser Val Ala Leu Ala Gly Phe Glu Glu Asp Asn Pro Ile Arg Ser Val
52      20          25          30
53      Thr Gln Arg Pro Asp Ser Ile Glu Pro Ala Ile Leu Gly Val Leu Gly
54      35          40          45
55      Ser Cys Arg His Ala Phe His Phe Ala Arg Phe Ala Arg Arg Tyr Gly
56      50          55          60
57      Lys Ser Tyr Gly Ser Glu Glu Glu Ile Lys Lys Arg Phe Gly Ile Phe
58      65          70          75          80
59      Val Glu Asn Leu Ala Phe Ile Arg Ser Thr Asn Arg Lys Asp Leu Ser
60      85          90          95
61      Tyr Thr Leu Gly Ile Asn Gln Phe Ala Asp Leu Thr Trp Glu Glu Phe
62      100         105         110
63      Arg Thr Asn Arg Leu Gly Ala Ala Gln Asn Cys Ser Ala Thr Ala His
64      115         120         125
65      Gly Asn His Arg Phe Val Asp Gly Val Leu Pro Val Thr Arg Asp Trp
66      130         135         140
67      Arg Glu Gln Gly Ile Val Ser Pro Val Lys Asp Gln Gly Ser Cys Gly
68      145         150         155         160
69      Ser Trp Thr Phe Ser Thr Thr Gly Ala Leu Glu Ala Ala Tyr Thr Gln
70      165         170         175
71      Leu Thr Gly Ser Thr Leu Ser Glu Gln Leu Val Asp Cys Ala Ser
72      180         185         190
73      Ala Phe Asn Asn Phe Gly Cys Gly Gly Leu Pro Ser Gln Ala Phe Glu
74      195         200         205
75      Tyr Val Lys Tyr Asn Gly Gly Ile Asp Thr Glu Gln Thr Tyr Pro Tyr
76      210         215         220
77      Leu Gly Val Met Gly Ile Cys Asn Phe Lys Gln Glu Asn Val Gly Val
78      225         230         235         240
79      Lys Val Ile Asp Ser Ile Asn Ile Thr Leu Gly Ala Glu Asp Glu Leu
80      245         250         255
81      Lys His Ala Val Gly Leu Val Arg Pro Val Ser Val Ala Phe Glu Val
82      260         265         270
83      Val Lys Gly Phe Asn Leu Tyr Lys Lys Gly Val Tyr Ser Ser Asp Thr
84      275         280         285
85      Cys Gly Arg Asp Pro Met Asp Val Asn His Ala Val Leu Ala Val Gly
86      290         295         300
87      Tyr Gly Val Glu Asp Gly Ile Pro Tyr Trp Leu Ile Lys Asn Ser Trp
88      305         310         315         320
89      Gly Thr Asn Trp Gly Asp Asn Gly Tyr Phe Lys Met Glu Leu Gly Lys
90      325         330         335
91      Asn Met Cys Gly Val Ala Thr Cys Ala Ser Tyr Pro Ile Val Ala Val
92      340         345         350

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94 &lt;210&gt; SEQ ID NO: 3

95 &lt;211&gt; LENGTH: 7

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/087,714

DATE: 03/25/2002

TIME: 11:19:32

Input Set : N:\Crf3\03202002\J087714.raw

Output Set: N:\CRF3\03222002\J087714.raw

```

96 <212> TYPE: PRT
97 <213> ORGANISM: Artificial Sequence
98 <220> FEATURE:
99 <223> OTHER INFORMATION: Novel Sequence
100 <400> SEQUENCE: 3
101     Gly Val Leu Pro Val Thr Arg
102     1                               5
104 <210> SEQ ID NO: 4
105 <211> LENGTH: 13
106 <212> TYPE: PRT
107 <213> ORGANISM: Artificial Sequence
108 <220> FEATURE:
109 <223> OTHER INFORMATION: Novel Sequence
110 <400> SEQUENCE: 4
111     Asn Ser Trp Gly Thr Asn Trp Gly Asp Asn Gly Tyr Phe
112     1                               5                               10
114 <210> SEQ ID NO: 5
115 <211> LENGTH: 6
116 <212> TYPE: PRT
117 <213> ORGANISM: Artificial Sequence
118 <220> FEATURE:
119 <223> OTHER INFORMATION: Novel Sequence
120 <400> SEQUENCE: 5
121     Gly Phe Asn Leu Tyr Lys
122     1                               5
124 <210> SEQ ID NO: 6
125 <211> LENGTH: 8
126 <212> TYPE: PRT
127 <213> ORGANISM: Artificial Sequence
128 <220> FEATURE:
129 <223> OTHER INFORMATION: Novel Sequence
130 <400> SEQUENCE: 6
131     Gln Gly Ile Val Ser Pro Val Lys
132     1                               5
134 <210> SEQ ID NO: 7
135 <211> LENGTH: 20
136 <212> TYPE: DNA
137 <213> ORGANISM: Artificial Sequence
138 <220> FEATURE:
139 <223> OTHER INFORMATION: Primer 1a 5
W--> 140 <221> NAME/KEY: misc_feature
141 <222> LOCATION: (3)..(3)
142 <223> OTHER INFORMATION: N= Inosine
W--> 143 <221> misc_feature
144 <222> LOCATION: (6)..(6)
145 <223> OTHER INFORMATION: N= Inosine
W--> 146 <221> misc_feature
147 <222> LOCATION: (9)..(9)
148 <223> OTHER INFORMATION: N= Inosine

```

## RAW SEQUENCE LISTING

DATE: 03/25/2002

PATENT APPLICATION: US/10/087,714

TIME: 11:19:32

Input Set : N:\Crf3\03202002\J087714.raw

Output Set: N:\CRF3\03222002\J087714.raw

W--> 149 <221> misc\_feature  
 150 <222> LOCATION: (12)..(12)  
 151 <223> OTHER INFORMATION: N= Inosine

W--> 152 <221> misc\_feature  
 153 <222> LOCATION: (15)..(15)  
 154 <223> OTHER INFORMATION: N= I

W--> 155 <221> misc\_feature  
 156 <222> LOCATION: (18)..(18)  
 157 <223> OTHER INFORMATION: N= I

W--> 158 <400> 7

W--> 159       ggngtncctnc cngtnacncg  
 161 <210> SEQ ID NO: 8  
 162 <211> LENGTH: 20  
 163 <212> TYPE: DNA  
 164 <213> ORGANISM: Artificial Sequence  
 165 <220> FEATURE:  
 166 <223> OTHER INFORMATION: Primer 1a 5

W--> 167 <221> NAME/KEY: misc\_feature  
 168 <222> LOCATION: (3)..(3)  
 169 <223> OTHER INFORMATION: N= Inosine

W--> 170 <221> misc\_feature  
 171 <222> LOCATION: (6)..(6)  
 172 <223> OTHER INFORMATION: N= Inosine

W--> 173 <221> misc\_feature  
 174 <222> LOCATION: (9)..(9)  
 175 <223> OTHER INFORMATION: N= Inosine

W--> 176 <221> misc\_feature  
 177 <222> LOCATION: (12)..(12)  
 178 <223> OTHER INFORMATION: N= Inosine

W--> 179 <221> misc\_feature  
 180 <222> LOCATION: (15)..(15)  
 181 <223> OTHER INFORMATION: N= Inosine

W--> 182 <221> misc\_feature  
 183 <222> LOCATION: (18)..(18)  
 184 <223> OTHER INFORMATION: N= Inosine

W--> 185 <400> 8

W--> 186       cgngtnacng gnagnacncc  
 188 <210> SEQ ID NO: 9  
 189 <211> LENGTH: 41  
 190 <212> TYPE: DNA  
 191 <213> ORGANISM: Artificial Sequence  
 192 <220> FEATURE:  
 193 <223> OTHER INFORMATION: Primer 2a 5

W--> 194 <221> NAME/KEY: misc\_feature  
 195 <222> LOCATION: (3)..(3)  
 196 <223> OTHER INFORMATION: N= t or c

W--> 197 <221> misc\_feature  
 198 <222> LOCATION: (6)..(6)  
 199 <223> OTHER INFORMATION: N= Inosine

20

20

## RAW SEQUENCE LISTING

DATE: 03/25/2002

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TIME: 11:19:32

Input Set : N:\Crf3\03202002\J087714.raw

Output Set: N:\CRF3\03222002\J087714.raw

```

W--> 200 <221> misc_feature
      201 <222> LOCATION: (12)..(12)
      202 <223> OTHER INFORMATION: N= Inosine
W--> 203 <221> misc_feature
      204 <222> LOCATION: (15)..(15)
      205 <223> OTHER INFORMATION: N= Inosine
W--> 206 <221> misc_feature
      207 <222> LOCATION: (18)..(18)
      208 <223> OTHER INFORMATION: N= t or c
W--> 209 <221> misc_feature
      210 <222> LOCATION: (24)..(24)
      211 <223> OTHER INFORMATION: N= Inosine
W--> 212 <221> misc_feature
      213 <222> LOCATION: (27)..(27)
      214 <223> OTHER INFORMATION: N= t or c
W--> 215 <221> misc_feature
      216 <222> LOCATION: (30)..(30)
      217 <223> OTHER INFORMATION: N= t or c
W--> 218 <221> misc_feature
      219 <222> LOCATION: (33)..(33)
      220 <223> OTHER INFORMATION: N= Inosine
W--> 221 <221> misc_feature
      222 <222> LOCATION: (36)..(36)
      223 <223> OTHER INFORMATION: N= t or c
W--> 224 <221> misc_feature
      225 <222> LOCATION: (39)..(39)
      226 <223> OTHER INFORMATION: N= t or c
W--> 227 <400> 9
W--> 228      aantcntggg gnacnaantg gggnganaan ggntanttna a
      230 <210> SEQ ID NO: 10
      231 <211> LENGTH: 42
      232 <212> TYPE: DNA
      233 <213> ORGANISM: Artificial Sequence
      234 <220> FEATURE:
      235 <223> OTHER INFORMATION: Primer 2b 5
W--> 236 <221> NAME/KEY: misc_feature
      237 <222> LOCATION: (1)..(1)
      238 <223> OTHER INFORMATION: N= c or t
W--> 239 <221> misc_feature
      240 <222> LOCATION: (4)..(4)
      241 <223> OTHER INFORMATION: N= g or a
W--> 242 <221> misc_feature
      243 <222> LOCATION: (7)..(7)
      244 <223> OTHER INFORMATION: N= g or a
W--> 245 <221> misc_feature
      246 <222> LOCATION: (10)..(10)
      247 <223> OTHER INFORMATION: N= Inosine
W--> 248 <221> misc_feature
      249 <222> LOCATION: (13)..(13)

```

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/087,714

DATE: 03/25/2002  
TIME: 11:19:33

Input Set : N:\Crf3\03202002\J087714.raw  
Output Set: N:\CRF3\03222002\J087714.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; N Pos. 3,6,9,12,15,18  
Seq#:8; N Pos. 3,6,9,12,15,18  
Seq#:9; N Pos. 3,6,12,15,18,24,27,30,33,36,39  
Seq#:10; N Pos. 1,4,7,10,13,16,19,25,28,31,37,40  
Seq#:11; N Pos. 3,6,9,12,15  
Seq#:12; N Pos. 1,4,7,10,13,16

## VERIFICATION SUMMARY

DATE: 03/25/2002

PATENT APPLICATION: US/10/087,714

TIME: 11:19:33

Input Set : N:\Cr3\03202002\J087714.raw

Output Set: N:\CRF3\03222002\J087714.raw

L:140 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:143 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:7  
L:146 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:7  
L:149 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:7  
L:152 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:7  
L:155 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:7  
L:158 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:7  
L:159 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0  
L:167 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:170 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:8  
L:173 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:8  
L:176 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:8  
L:179 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:8  
L:182 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:8  
L:185 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:8  
L:186 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
L:194 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:197 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:200 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:203 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:206 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:209 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:212 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:215 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:218 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:221 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:224 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:227 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:9  
L:228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0  
L:236 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:239 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:242 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:245 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:248 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:251 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:254 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:257 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:260 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:263 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:266 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:269 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:272 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:10  
L:273 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0  
L:281 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:284 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:11  
L:287 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:11  
L:290 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:11  
L:293 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:11



## VERIFICATION SUMMARY

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TIME: 11:19:33

Input Set : N:\Crf3\03202002\J087714.raw

Output Set: N:\CRF3\03222002\J087714.raw

L:296 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:11  
L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
L:305 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:308 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:12  
L:311 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:12  
L:314 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:12  
L:317 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:12  
L:320 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:12  
L:323 M:258 W: Mandatory Feature missing, <220> not found for SEQ ID#:12  
L:324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0